

# **SOLOON SUPER-LOCK CO., INC**

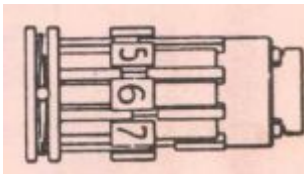
## **NIX-PIX LOCK**



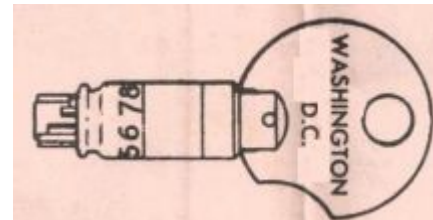
### **DIRECTIONS FOR RESETTING SOLOON Suoper-Locks-Combination Keys.**

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The Super-Lock is comprised of two parented basic elements.....



(1) Patented change-key-combination Mechanism



(2) Patented change-combination Key

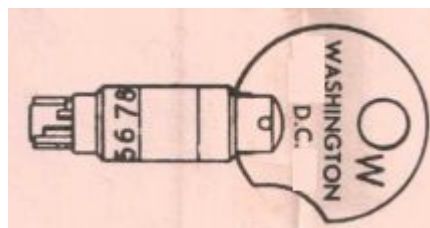
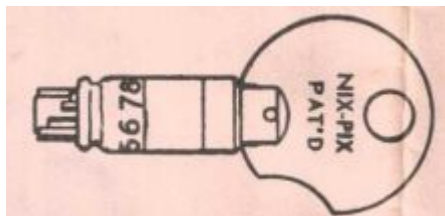
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# SOLON SUPER-LOCK CO., INC

## NIX-PIX-LOCK

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Two keys are employed in the **NIX-PIX Lock** system.....



(1) The normal operating key with  
Aluminium handle

(2) The with drawal key with Brass handle  
Stamped "K"

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We are now ready to proceed with the recombination....

**IMPORTANT** .....It is of utmost importance that the combination of every lock be recorded. This record should be kept under safe keeping and is the key to your control of the **NIX-PIX Lock** system. The **NIX-PIX Lock** system eliminates the need of a complex and burdensome spare key setup since any **NIUX-PIX Lock** key will open only **NIX-PIC Lock** after has been set to the right combination.

Select new combination and record on a card...for example:

<u>Tumbler No.</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
Present position	1	2	1	3	1	2	1	3
New position	2	4	3	3	2	4	3	3

The present combination is 1-2-1-3-1-2-1-3 and is being changed to 2-4-3-3-2-4-3-3

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# SOLON SUPER-LOCK CO., INC

## NIX-PIX-LOCK

### Sep One

Set withdrawal key to present combination to enable you to withdraw change-a-comb mechanism.....

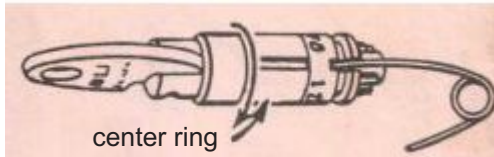


Fig. 1

With a strong safety pin or similar object, press into slot between station 1 & 8, unlocking center ring and allowing it to rotate. Turn to station 1 and set actuator as shown in figure (2).

Slide actuator so that 2 slots are visible. Each actuator has 4 slots per figure (3) which correspond to the 4 positions in the tumblers.

1 slot visible-#1 position

2 slots visible-#2 position

3 slots visible-#3 position

4 slots visible-#4 position

Continue rotating center ring and set actuators until all stations have been set to new combination. We are now ready to remove change-a-combination mechanism from the lock case.

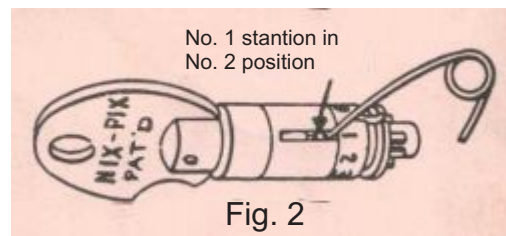


Fig. 2



Fig. 3

### STEP TWO

Insert key and turn mechanism to left until dot on mechanism lines with dot on left side of cylinder or with left mark on padlock case as shown in figure (4).

Remove key and withdraw mechanism with pin as shown in

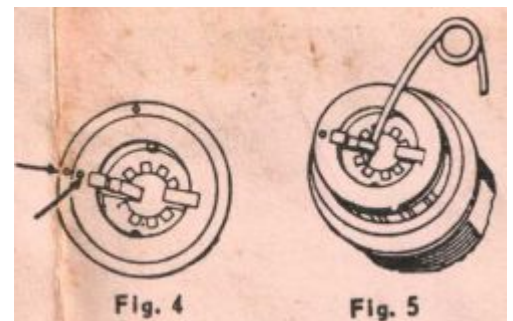


Fig. 4

Fig. 5

# SOLON SUPER-LOCK CO., INC

## NIX-PIX-LOCK

### STEP THREE

You are now ready to set a new combination in the mechanism. With No. 2 Tru-Arc pliers (or pin) remove the Tru-Arc ring (a) and slip off

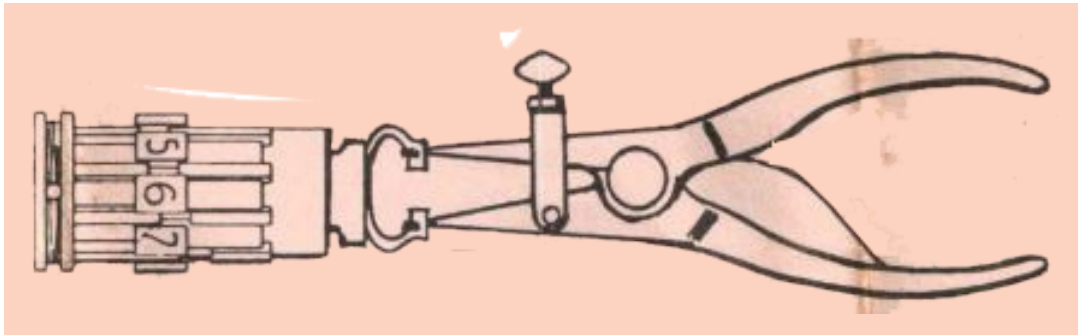
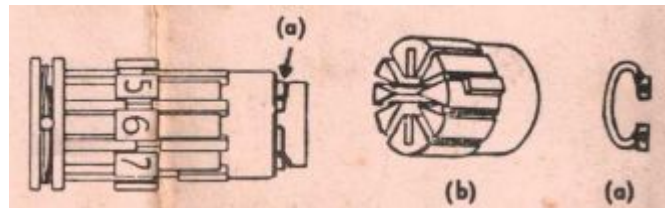
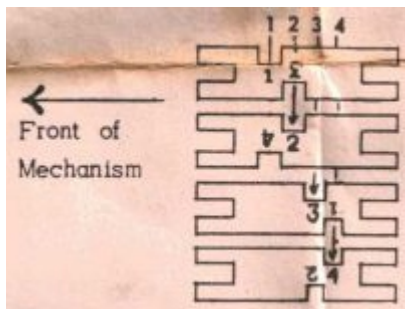


Fig. 6

### STEP FOUR

Reset tumblers to new combination. Tumbler positions are identified as shown below. Note that the two cutouts are nearer on end than the other.



Position No. 1

Turn over for position No. 2

Turn end for end for position No. 3

Turn over for position N. 4



Fig. 7

Showing tumbler in position 2 being set in station 5

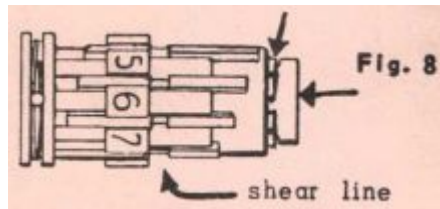
You will note that the positions keep increasing in four equal increments. The nearest to the front is No. 1 and the farthest is No. 4.

### STEP SIX

After all tumblers have been reset to new combination, re-assemble mechanism by reversing procedure in figure (6) above. The correctness of your new combination can be checked by inserting the key into the mechanism and if all the tumblers have been correctly set, the cutouts will all line up with the shear line as shown in figure (8). Insert mechanism into case with dot on mechanism in line with left dot on case. Use the withdrawal key set to new combination, and rotate mechanism to line up with top dot on cylinder case or the long mark on padlock case. Remove key and the lock is ready for normal operation. Reset your normal operating key to the new combination by following step one, and you now have a completely new lock.

# **SOLOON SUPER-LOCK CO. ,INC**

## **NIX-PIX-LOCK**



**REMEMBER.... Any NIX-PIX key WILL OPEN ANY NIX-PIC ONLY WHEN SET TO THE PROPER COMBINATION.....KEEP A RECORD OF YOUR COMBINATIONS AND GUARD THEM AS YOU WOULD THE COMBINATION TO YOUR SAFE.**

All Nix-Pix Locks are covered by United States patents

**SOLOON SUPER-LOCK CO., INC.**  
**115 L Street S. E. Washing ton 3, D. C.**



## Nix-Pix cylinder offers “USER” changing of combination by resetting key

The Nix-Pix cylinder, made by Solon Super Lock Company, represents an unusual idea in cylinder design. While it retains the conventional housing and plug, it uses rectangular tumblers that lie flat in slots cut into the periphery of the plug. (See Figure 1).

Each tumbler has a notch in its “active” side, which is its peripheral (facing the *inner* surface of the cylinder housing). This notch serves as the bypass to a series of aligned lugs encircling the inner surface of the cylinder housing. Movement of the tumblers is from front to rear so that a tumbler slot lugs only when pushed in to a sufficient depth.

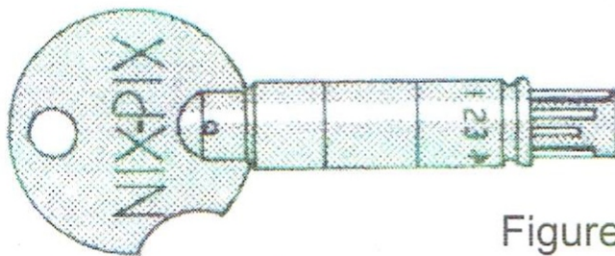


Figure 1

In addition, each tumbler is slotted at the end to form two prongs. One of these prongs, when the tumbler is installed, projects into the circular keyway where it can be depressed by a corresponding actuator on the key.

The plug has eight tumblers, four on each side of the circular keyway. Two aligning lugs, which insure correct insertion of the key, are positioned at the 0 and 180° points of the keyway.

Because of its unusual design, the Nix-Pix cylinder offers “user” changing of combinations. This is possible because its keys contain eight actuators or push levers, which can be set to any four positions (See Figure 1). The positions are indicated by notches on the actuators and these notches correspond

to the placement of the tumbler notches. As a result, an actuator at the No. 2 position will place a No. 2 tumbler at the shear line, thus, a new key is not “cut,” but rather created by merely repositioning the actuators to a new setting.

The unique key is made of two concentric rods, with the eight actuators exposed at the tip. The center section of the outer rod is movable and serves as the locking unit for the actuators. This center section, called a rotating locking ring (See Figure 2), cannot be removed but can be unlocked to permit the actuator to be reset.

The actuators are thin strips, having

four notches cut into the upper surface, (See Figure 2). These notches are the means by which actuator can be set to a specific depth, forming a new opening setting for a tumbler.

Setting of the notches is done visually. Since the actuators are secured between the concentric rods of the key, (See Arrow A, Figure 3), rotating locking ring can be turned to expose the back of the actuator. If one notch is visible through the slot of the locking ring, the actuator is set to a No. 1 depth. If two notches show (See Arrow B, Figure 3), then the actuator is set to a No. 2 depth. With 3 three or four notches visible, the depth setting is either 3 or 4.



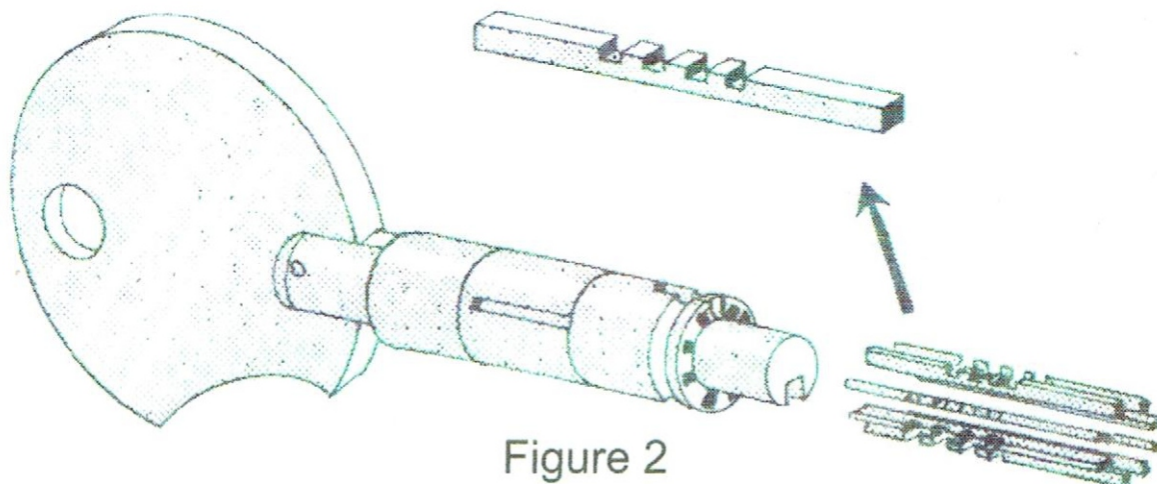


Figure 2

In order to produce the "user" changing feature, two keys are required for the cylinder. One is the regular operating key and the other is the withdrawal key, which is used to remove the plug. Both the operating key and the withdrawal key are the same with exception of a ring on the front tip of the key. This ring (See Arrow C, Figure 3) is *only the operating key*.

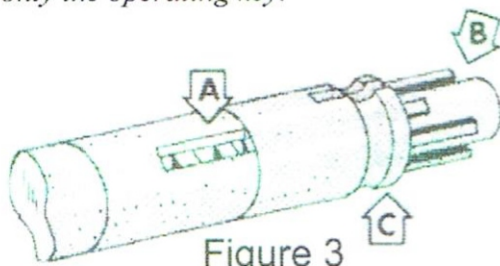


Figure 3

The purpose of this ring on the operating key is to secure a retaining pin in the plug. As the operating key is used,

Chambers	1	2
Old Combination	1	2
New Combination	4	3

the ring will raise the plug-retaining pin so that the plug will remain in the housing as the shear line is reached. The retaining pin, positioned in the face of the plug, is spring-loaded and rises each time the operating key is used.

The withdrawal key, not having the ring on the front tip, does *not* raise the plug-retaining pin. As a result, the pin

will *not* anchor the plug to the housing when the shear line is reached and will prevent the plug to be removed. With the withdrawal key inserted, the plug is rotated left, to align an indicator mark with the lug on the housing (at 9 o'clock position) or on the padlock case (See Figure 4). Tapping will release the plug.

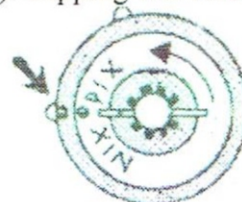


Figure 4

In order to change the combination, the plug must be removed. Then, a chart should be made up to indicate the settings of the actuators. First, consecutive stations or chambers of the

3	4	5	6	7	8
3	4	1	2	3	4
2	1	4	3	2	1

actuators is written. Below this is written the old combination and then the new combination is written below the old, as follows:

With the new combination determined, the plug is ready for disassembly, (See Figure 5). With No. 2 Tru-Arc pliers, the retainer ring (G, Figure 5) can be removed from the back



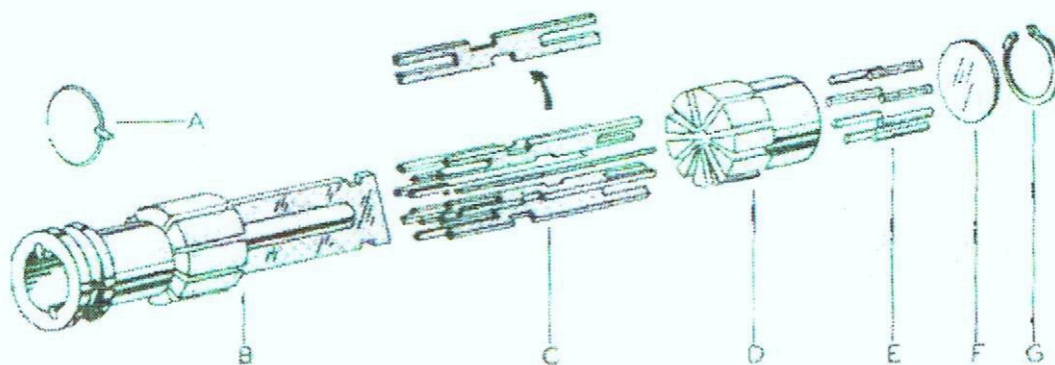


Figure 5

A—Locking spring and stop pin.  
B—Mechanism body  
C—Tumblers  
D—Spring chamber

E—Tumbler springs  
F—Blocking plate  
G—Tru-Arc ring

of the plug. This will allow the spring chamber (D, Figure 5) to be lifted away from the back of the plug. Note that the spring chamber will contain the tumbler springs (E) and the spring retainer plate (F). The nest of tumblers (C) now can be lifted from their chambers.

Examination of a tumbler will show another interested feature — that any one tumbler can be repositioned to produce any one of four opening settings. Disregarding the end slots, it will be noticed that each tumbler has two notches and that these notches are close to one end of the tumbler. These notches are placed in such matter that, just by turning over, or end over end; a different notch position can be obtained. All of these notches are numbered and, by placing the correct number in normal reading position, the tumbler can be set to put each notch in the "active" side.

(See Figure 6).

Also, it will be noted that the tumbler chambers are marked on the plug body. Starting with chamber No. 1, therefore, the tumblers are positioned according to the written combination, (See Figure 7). It is important that the tumblers be placed in their proper chambers. After all tumblers are replaced, the spring chamber and Tru-Arc ring can be replaced.

The next step requires setting of the actuators with the new tumble settings set the withdrawal key first. Since the rotating locking ring of the key secures the actuators, it is necessary to release this ring. A spring loaded stop inside the key secures the locking ring, to get at this stop, locate the slot between the numbers 8 and 1 stamped on the key. This slot is in alignment with a second slot in the locking ring. Insert a sharp

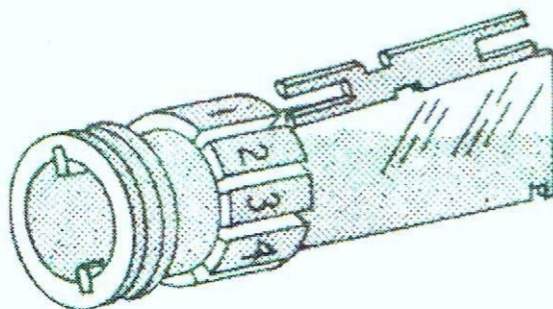


Figure 7

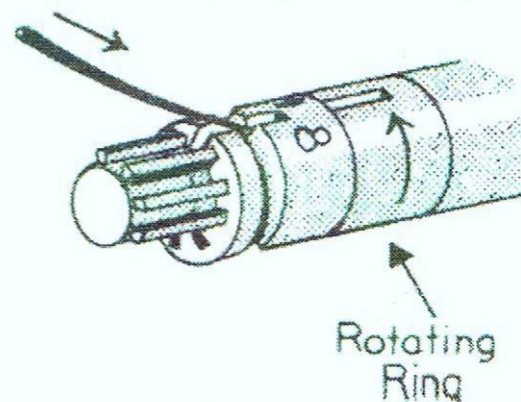


Figure 8



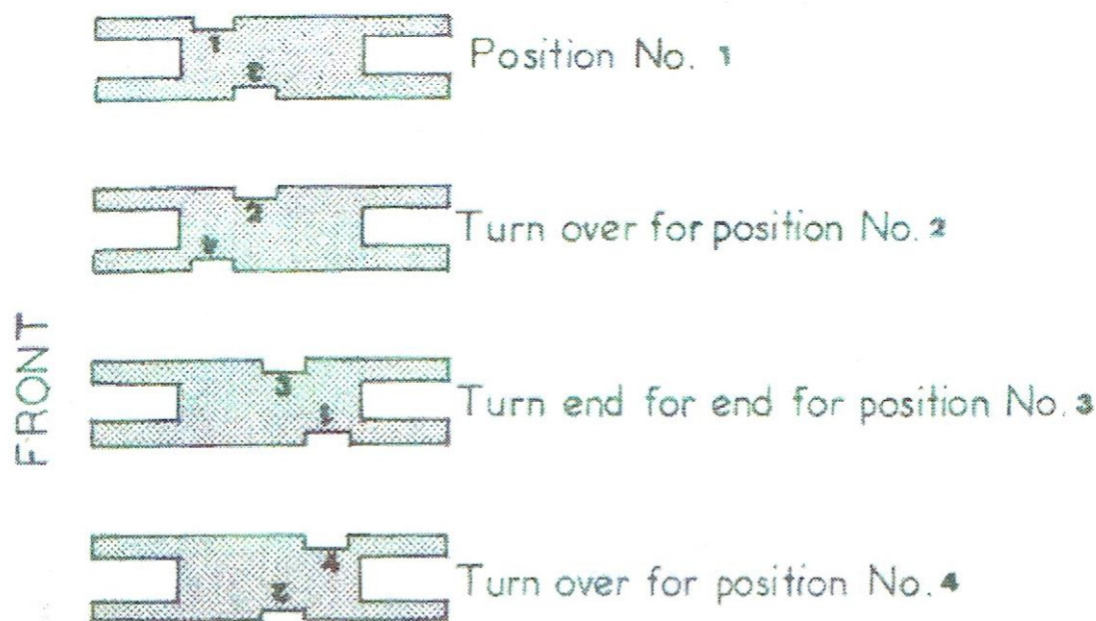


Figure No. 6

pointed tool into the front slot and push in, (See Figure 8). This action will release the stop anchoring the lock ring. The ring then can be rotated to position its slot over any of the eight actuators.

Rotate the ring so that it positions over the actuator 1. A pair of tweezers then can be used to move the actuator in or out as needed so that the notches become visible through the ring slot (as shown by Arrow B, Figure 3), according to the new combination, set actuator No. 1 so that four notches are visible in the slot. Then, turn the ring to position the slot over actuator No. 2 and move this actuator to make three notches visible. Continue turning the ring over the remaining actuators so that the setting of 2-1-4-3-2-1 can be arranged in order.

After testing it, the plug can be replaced. Using the withdrawal key inserted in the plug set the plug in the housing, aligning the indicator mark with the housing lug. When fully in, rotate the plug to the right and withdraw it. The lock is now ready for use.

The combination of the actuator settings should be committed to

memory. If it is written down, however, it is advisable to keep it safeguarded in the same fashion as a safe combination that is retained.

When all actuators have been set to the new combination, return the ring to its secure position and the spring loaded stop will anchor it, thus holding the actuators in the new combination. Immediately test the new settings by inserting the key (See Figure 9) and making sure all tumblers notches line up at the shear line.

Before replacing the plug in the cylinder housing, set the operating key to the new combination in the same manner.

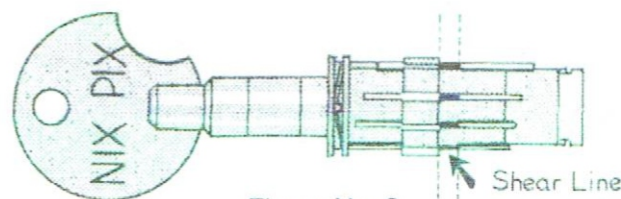


Figure No. 9

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